DOCUMENT RESUME

ED 079 427 TM 003 031

TITLE	Aids to Interpretation for 1973-74 Illinois Statewide High School Testing Program.
INSTITUTION	Illinois Univ., Urbana. Center for Instructional Research and Curriculum Evaluation.
PUB DATE	73
NOTE	35p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*High Schools; Pamphlets; Standardized Tests; State Programs; Statistical Data; *Test Interpretation; *Test Results
IDENTIFIERS	Illinois

ABSTRACT

A pamphlet on how to make use of the results of the Illinois Statewide High School Testing Program in an individual school is presented. The 1973-74 testing program includes tests of academic aptitude, reading comprehension and knowledge, communication skills, and mathematical skills. The program reports contain the raw scores of the students in each school and State percentile scores. The reports also contain a frequency distribution of the scores in each school and some summary statistics. (CK)

ED 079427

U S DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

AIDS TO INTERPRETATION

for

1973-74 ILLINOIS STATEWIDE HIGH SCHOOL TESTING PROGRAM

TM 003 031

Center for Instructional Research and Curriculum Evaluation
College of Education - University of Illinois
270 Education Building - Urbana, Illinois 61801

CONTENTS

AIDS TO INTERPRETATION is written as a how-to-do-it pamphlet: how to make use of the results of the Illinois Statewide High School Testing Program in your school.

WHETHER YOU ARE A NEW OR AN OLD SUBSCRIBER to the Program, we are sure it will be worth your while to give this pamphlet a once-over since there are some changes in reporting this year. Also, keep it handy for ready reference.

IF YOU ARE NOT YET WELL-ACQUAINTED with the Program, you may want to know what functions we see it serving in the schools.

SCHOOLS ARE ENCOURAGED to reproduce any part of this pamphlet for use by or with teachers, counselors, students, or parents.

		Page
Preface	. . . . .	i
Chapter I	What the Illinois Statewide Testing Program Means to Us	1
Chapter II	The Tests in the Program	3
Chapter III	Some Basic Terms: Percentile Scores and Standard Deviations	7
Chapter IV	The Program Reports	10
Chapter V	The Analysis of the Individual Student's Case	15
Chapter VI	The Analysis of Group Results	26
Chapter VII	Some Related Services	28
Bibliography	. . . . .	30

PREFACE

The Illinois Statewide High School Testing Program is intended to serve the needs of schools and students of our state. Therefore, we are interested in your comments and suggestions.

The 1973-74 Illinois Statewide Testing Program includes tests of academic aptitude, reading comprehension and knowledge, communication skills, and mathematical skills. The Program is also characterized by reduced administration time. Many schools have found that this makes administering the tests easier.

The Program reports contain the raw scores of the students in your school in addition to state percentile scores. The Program reports also contain a frequency distribution of the scores in your school and some summary statistics. These modes of reporting have been used to provide you with data which is descriptive of your school only and easily accommodated to other statistical treatment.

CHAPTER I

WHAT THE ILLINOIS STATEWIDE TESTING PROGRAM MEANS TO US

To us at the Center for Instructional Research and Curriculum Evaluation (CIRCE), the Statewide High School Testing Program means service. But good service means research and development. We try to keep our activities, varied as they are, focused on service to teachers, counselors, and administrators. We try to help with some of the many questions which teachers, counselors, and administrators inevitably ask themselves. Among the many questions which keep popping up, here are some which the Illinois Statewide Testing Program can help answer or clarify:

To what extent are we attaining our objectives with various groups of students?

Which of our students are "good bets" for test-controlled scholarship programs?

How well might our students be expected to perform in certain college courses?

What is the distribution of verbal-reasoning ability among our students?

With which students are our courses and classroom procedures most effective (or least effective) in developing the basic skills of scholarship?

How do our judgments of a student's abilities and skills compare with other estimates of the same things?

With how many of our students are there apparent discrepancies between skills and abilities?

Do any of our students appear to scatter their efforts by performing inconsistently from time to time and from test to test?

To what extent does it appear that our students are pursuing courses of study which are appropriate to their abilities and skills?

How effective is our class-grouping of students?

How accurate are students' ideas of their own abilities and skills?

How do the abilities and skills of our students compare with those at other schools?

How do the abilities and skills of students with certain backgrounds or origins compare with those of others?

The Illinois Statewide High School Testing Program can help toward answering questions like these by providing tests which

1. assess some of the more complex skills and abilities,
2. assess the more common objectives of general education,
3. provide statewide norms for purposes of comparison, and
4. provide information about the range and distribution of scores for the juniors in your school.

In addition to these primary purposes, we feel that it is important

1. to make these tests easily and economically available to all Illinois secondary schools and
2. to provide a scoring service and reporting which will free teachers from clerical work and allow them more time for using the test results.

In earlier instructions we requested that you retain a specimen set of the tests. YOU WILL FIND IT HELPFUL to examine your specimen set as you read this chapter.

CHAPTER II

THE TESTS IN THE PROGRAM

The tests used in the Program are of four types--academic aptitude, reading comprehension and knowledge, communication skills, and mathematical skills.

Academic Aptitude

Academic aptitude relates to the ability to acquire knowledges, skills, and abilities commonly found in the school's curriculum. (No implicit assumption is made that such an ability is inherited.) The Verbal Reasoning score provides us with a measure of one component of academic aptitude.

Verbal Reasoning Test--This test gives a measure of the ability to understand concepts framed in words. Specifically it aims at evaluating the student's ability to abstract or generalize and to think constructively rather than at simple fluency or recognition of vocabulary. Verbal Reasoning scores will be helpful in predicting academic success and vocational level.

Reading Comprehension and Knowledge

The ability to comprehend what one reads depends in large measure upon the subject matter being read, the difficulty of the writing, the general knowledge of the person reading, and the intent of the person reading. We cannot measure, within anything like reasonable time limits, all different subject matters, difficulties, levels of general understanding, and reading purposes. We have tried to choose from each of these four aspects parts which are most relevant to school work. Thus, we have samples of reading matter from two major fields of the high school curriculum--the natural sciences and social studies. The level of difficulty of the subject matter in the samples varies although most of it is comparable to secondary-school textbook material. The nature of the reading behavior which is sampled is meant to be more like that of a classroom-learning situation than that of pleasure reading of fiction. The levels of general knowledge required to answer the questions at the end of each passage vary in depth and sophistication.

No diagnostic part scores are given on these reading comprehension tests. Truly reliable subscores on different aspects of reading would require considerably longer tests than we use. We felt that, in the time given, you would prefer a test which samples several aspects of reading and general knowledge and puts them together in a general ability score as opposed to a test which measures only one aspect out of the many. For instance, the way in which students perform on other reading tasks gives little prediction of how they will perform when

relating written material to graphical representation. There are a few items in the Natural Sciences Test and the Social Studies Test which depend in part on this ability--not enough for a reliable subscore but enough to sample this ability as part of an overall reading-comprehension ability.

In neither of the reading comprehension and knowledge tests is speed of reading tested. Our central concern in these tests is with ability to do the tasks, not with speed of doing them. However, there may be a few students who read so slowly that they fail to complete the tests.

1. Natural Sciences Test--This test samples the student's knowledge and comprehension of three reading passages at several levels. For instance, at a fairly basic level it measures the student's understanding of the key words in the passage. It also checks on his sensitivity to the particular meaning of words in context. At the higher level of understanding it tests his ability to recognize a correct restatement of key phrases or sentences. At the next level it tests his ability to recognize certain implications of the passage. Finally, it tests his ability to understand well enough the rules and principles described to apply them along with other knowledge he has acquired to new situations.

   We find that excellence of a general background in the sciences enhances one's ability to perform well on the test. This should be borne in mind in interpreting this as a knowledge and reading ability score. Such background alone, however, does not necessarily result in a high score. The student still must be able to comprehend these particular passages well enough to think with the material.

2. Social Studies Test--This test consists of several reading passages, graphs, and maps. It is designed to sample behaviors which relate to both a shallow and a deep, penetrating comprehension: (a) ability to determine the main idea, (b) ability to make reasonable inferences about the author's intent, (c) ability to recognize the general form of an argument, (d) ability to recognize relevant assumptions, (e) ability to relate general social studies knowledge to the particular material presented in a passage, (f) ability to discriminate between the appropriate and inappropriate implications of an article, and (g) interpretation of graphs and maps.

Communication Skills

The English Test yields three scores: grammar, usage, and a total score. Each of the tests samples many specific rules and principles of communication; hence, the scores alone do not "pinpoint" the student's strong or weak points in terms of particular rules or principles. However, they do give suggestions concerning the extent to which he needs help in two broad areas: knowledge of the rules of grammar and appropriate use of the English language in written communication. The total score may be viewed as an index of the student's "overall mastery of the English language."

1. Grammar Score--This score is based on the number of right answers the student gives on the first 35 items in the English Test. If

you examine the test, you will note that the items sample many aspects of good sentence construction. These aspects vary from grammar and usage to word choice and idiom. This score is, therefore, an index of the student's ability to use the conventions of correct and formal English.

2. Usage Score--This score is based on the number of right answers the student gives on items 36 through 65 in the English Test. If you examine the test, you will note that the items sample many aspects of correctness and effectiveness of expression. These aspects vary from acceptable usage in grammar and punctuation to sentence construction and word choice. This score indicates the student's ability to communicate effectively.

3. Total Score--This score is a combination of the grammar and usage scores. The total score may be viewed as an index of the student's overall mastery of the English language. It is an index of the student's ability to express his thoughts in writing in a correct and clear manner.

We are not in a position of suggesting to you that one of these areas should be more important than the other in your school. Our belief is that "good" writing must include proper grammatical form and appropriate utilization of the language. We do feel that it is appropriate to direct the attention of all teachers to any disparity in averages among these scores so that the staff as a whole may be encouraged to think through the implications. English teachers alone should not be held responsible for skills and abilities which permeate almost all of our learning situations.

Mathematical Skills

The Mathematics Test yields three scores: problem solving, mathematics reasoning, and a total score. Each of the tests samples many mathematical principles and operations; hence, the scores alone do not identify exactly the student's strong and weak points in terms of particular areas of mathematics. However, they do give suggestions concerning the extent to which he needs help in two broad areas which are involved in each area of mathematics: problem solving and mathematical reasoning. The total score reflects the ability of the student to make use of mathematical knowledge and skills.

1. Problem-Solving Score--This score is based on the number of right answers the student gives on the first 36 items in the Mathematics Test. If you examine the test, you will note that the items sample many aspects of mathematical problem solving. These aspects include arithmetic calculations, algebraic manipulations, and the application of Euclidean geometric principles to problems.

2. Mathematics Reasoning Score--This score is based on the number of right answers the student gives on items 37 through 60 in the Mathematics Test. If you examine the test, you will note that the items sample many aspects of mathematical reasoning, including application of mathematical principles to data interpretation, set theory, and coordinate geometry.

3. Total Score--This score is a combination of the problem-solving and reasoning scores. The total score may be viewed as an index of the student's ability to make use of mathematical knowledge and skills. It may be viewed as an index of the student's overall mathematical knowledge and his ability to apply that knowledge.

We are not suggesting that one of these areas should be more important than the other in your school. Our belief is that mathematical skills should be developed in both of these areas. We feel that it is appropriate to direct the attention of all teachers to any disparity in averages so that the staff as a whole may be encouraged to think through the implications. Mathematics teachers alone should not be held responsible for skills and abilities which permeate other learning situations in the school.

Although percentiles have become widely used in educational measurement, we include for ready reference this brief description of how to interpret the percentile scores in which the results of the Statewide Testing Program are reported.

CHAPTER III

SOME BASIC TERMS: PERCENTILE SCORES AND STANDARD DEVIATIONS

Percentile Scores

State Percentile Scores

If the scores of a pupil on several tests were presented simply as the number of correct responses (called a raw score) on each of the tests, you would have no way of comparing his standing on one test with his position on the others. Neither could you look at his results alone and compare his performance with the performances of other pupils. These two types of comparisons are of major importance in interpreting results of tests. Percentile scores are of such a nature that these comparisons are built into the pupil's scores.

A percentile score for a given person on a given test expresses that person's standing on the test in terms of the percentage of individuals in his total group who scored lower than he did on the test. (In this Program the "total group" consists of all juniors or of all seniors who participated in the Statewide Program. The percentile scores for juniors are different from those for seniors.) Percentile scores range from 1 to 99 regardless of the raw-score range. For instance, although there are many more items in the English Test than there are in the Social Studies Test, the percentile range in each case is 1 to 99.

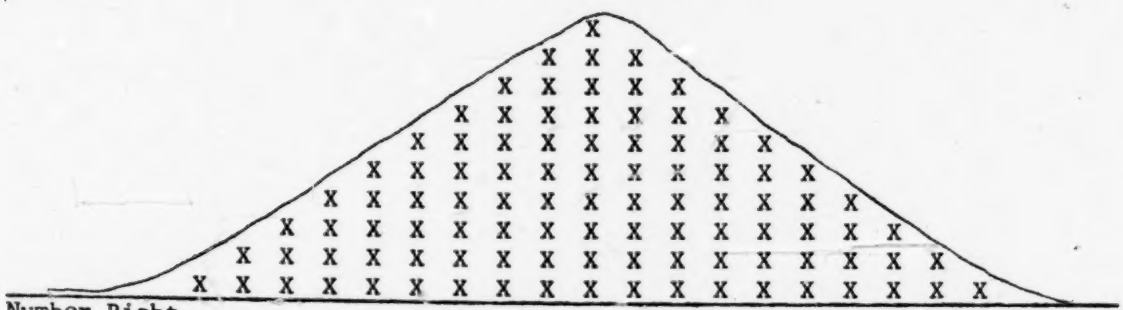
The following examples show how one interprets percentile scores. If a junior pupil has a percentile score of 28 on the Social Studies Test, it means that 28 percent of the juniors in the Statewide Program scored lower than he did on that test. If he also has a percentile score of 59 on the English Test, it means that his raw score (number correct) was such that 59 percent of the juniors in the Program made lower scores than he did on that test. It is important to remember that we are comparing him with juniors. If we were dealing with a senior pupil, the comparison would be with seniors in the Statewide Program. It should be noted also that, since 28 percent of the juniors had lower scores on the Social Studies Test, then 72 percent had higher scores than did this junior pupil. On the English Test we would say that 41 percent of the juniors made higher scores since 59 percent made lower scores than the score of our example pupil.

The scores themselves, then, give us the comparisons we wanted:

1. His score on one test with his score on another (in the example he did much better in English than in Social Studies).

2. His performance on a test with the performance of all other pupils of his group in the Program.

You probably know that the distribution of raw scores on these tests, as on most of your own, will be peaked in the center. Suppose, as an example, we would design a 25-item test and give the test to 100 students. If we let each "X" in the diagram represent one of the students, we might set the following distribution:



Number Right	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Percentile	1	1	1	1	1	2	4	8	12	18	24	32	40	50	59	68	76	82	87	92	95	98	99	99	99	99

In computing percentiles for this test, a raw score of 10 is equivalent to a percentile score of 24, as indicated by the table. The percentile is arrived at by finding the percent of students whose scores are below* the raw score in question. In this case, 24 of the 100 students (24 percent) received scores below 10. Similarly, a raw score of 16 would represent the 76th percentile since 76 percent of the students had raw scores below 16.

One of the things to notice about the distribution is that the distances between percentiles are different from those between raw scores. Thus, the distance between raw scores of 5 and 8 is 3 raw-score points (i.e., 8 minus 5) and 10 percentile points (i.e., 12 minus 2). A difference of 10 percentile points is also found between raw scores of 12 and 13 (i.e., 50 minus 40), only a 1-point raw-score difference. This characteristic of the percentile scale may be stated as a general rule--namely, that any specific difference in percentiles (e.g., 10) is comparable to a much larger difference in raw scores at the very high or very low percentiles (e.g., 8-18 or 82-92) than in the middle of the percentile range (e.g., 40-50).

*For computational purposes the results are treated as though half of the students at any one raw-score point fall below that number and half are above it. For example, using the raw score of 9, we have 6 points in that position. Considering half of them (3) as being below the point, we add 3 to the 15 scoring 8 or below and say that 18 pupils (18 percent) are below the raw score of 9.

Keep in mind, then, that the raw-score difference (distance) between two pupils having percentile scores one or two numbers apart around the mean is less than the raw-score difference between pupils who have percentile scores one or two points apart at the extremes.

It is also important to note that, although in this example no students scored as low as 3 or as high as 23, we still have percentiles from 1 to 99.

School Percentile Points

The percentile scores reported for each student are computed with respect to all juniors or all seniors who participated in the Program. These data do not lend themselves easily to comparison of a particular student with respect to students in his own school. Nor will they answer the question "Where does the entire class stand with respect to the state as a whole?"

These kinds of questions can be answered by statistics which are computed for your school only. Since the number of seniors in the Program is so small, school statistics were computed for juniors only. Several percentile points are of particular interest. The 50th percentile is called the median. The median indicates the performance of the most typical member of the group. The median is often a more useful statistic because, unlike the mean of a group of scores, it is not affected by extreme scores in the group. A comparison of the raw score corresponding to your school's median to the state 50th percentile will tell you how your juniors compare with juniors in the state as a whole.

Two other percentile points are also of interest--the 75th and the 25th. These two points along with the median divide your juniors into four (approximately) equal groups. These points will help you in looking at differences in the groups. Is there a large raw-score difference between the 75th percentile and the median and only a small difference between the median and the 25th percentile? These points may indicate clusters of students which may not be noticed when you first glance at the frequency distribution.

Standard Deviation

The standard deviation of a set of scores is a measure of the spread of the scores. The standard deviation indicates how much variation there is within a group on a particular test. In effect, the standard deviation is an average of the deviations of all the persons' scores from the group's mean. The size of this number is related to the range of abilities of your students. That is, the larger the range, the larger the standard deviation. However, the size is also related to the range of the scores possible on any particular test. Thus, the standard deviation for the Verbal Reasoning Test, which has a possible range of 0 to 50, is not comparable to the standard deviation for the Natural Sciences Test, on which scores may range from 0 through 23. A larger standard deviation in Verbal Reasoning, then, would not necessarily indicate more variability in the ability of your students; rather, in this example it would show that one test was longer and allowed for more variability.

This statistic is used in many statistical tests and is provided for your convenience. The standard deviation of the scores on any test is useful in interpreting differences among the scores of your juniors on that test. It will give you a statistical rule for deciding whether John's score of 12 on Mathematics Problem Solving is "really" very different from Jane's 22.

After your tests are scored, we send your school a variety of materials. There are six reports which give information about the scores made by the pupils in your school. Each of these reports is useful in a particular way.

CHAPTER IV

THE PROGRAM REPORTS

The materials which your school receives after the tests are scored are as follows:

Report of Scores--This is a gray folder containing sheets on which are listed the names of all pupils tested in your school and their raw and percentile scores. Each school receives two of these folders.

Student Record Card--This is a card which is approximately 3½ inches by 7½ inches with the percentile scores and other information for one pupil. There is one for each of your pupils.

Student Profile Card--This card is the same size as the Student Record Card; but it contains only the pupil's name, brief descriptions of the tests, and the pupil's decile scores. There is one for each of your pupils. Some schools order additional sets of these cards.

Adhesive Label--This is a pressure-sensitive (no moisture necessary) label on which student name is identified and all nine percentiles are printed. There is one for each student. (See directions for handling on the summary information sheet inside the folder containing the Report of Scores.)

School Mean Scores--A school mean score on each test appears after the last name on your roster Report of Scores.

Frequency Distribution--This report is printed on computer-output paper. It contains information about the raw-score distribution for the juniors in your school.

Report of Scores--the Roster

The name of the school is printed in the upper left-hand corner of the first page in the folder. A school code number which we use in processing appears at the far right of the first line of scores on each sheet. Next to the code number is the designation for juniors and seniors, "JRS" and "SRS," respectively. The names of the pupils tested appear in alphabetical order at the left-hand edge of the report. Juniors are listed first, then seniors.

The Report of Scores, considered as a complete list of test scores for your juniors or seniors, can have many uses. Because it provides a means of getting

an overall impression about a number of aspects of the scores, it is particularly helpful where the data can contribute to decisions affecting an entire class or a large portion of it. This will be discussed further in Chapter VI on "The Analysis of Group Results."

Student Record Card

This card contains personal data about the student, his test scores in percentile form, and a profile of his test scores in decile form. The percentile scores are in the upper right-hand corner. The Student Record Card is intended to provide an easily used permanent record of the student's test scores and other pertinent information which should help you to check on his development. The descriptions given on the back of the card are for the purpose of refreshing the memory of one who has read the fuller description in Chapter III and studied the specimen tests which each school has. They are not sufficiently detailed to be really meaningful by themselves to students, parents, or teachers who have not seen or heard additional descriptions.

We hesitate to mention filing--some schools do only that with test records--but it is true that these individual cards are convenient for filing in a variety of ways. We hope they are filed for the purpose of making them accessible. Some schools file them in the student's record folder, others send them to the homeroom teachers, while still others give them to the appropriate class adviser for filing with class records. We hope you find the best way to get the most use of them.

Note that each student has filled in eight items of information--beyond name, age, sex, and class--about himself. At the time the student answered these questions he was given more detailed explanations of most of them than appears on the card. In order to interpret his replies more accurately, you should reread pages 4 and 5 of the Manual of Instructions. This is especially important for items 6, 10, 11, and 12. Since the personal data were written by the student himself, caution must be used in interpreting the information. It may represent a "spur-of-the-moment" wish or perception. In part the usefulness of the results will depend upon how well you prepared and motivated the students to answer the questions. His "occupational choice" may involve little understanding of what the occupation entails or much thought about other possibilities. It also may be that for some students the answers to personal questions are what they think adults want--not what they themselves feel or desire. Hence, whatever questions you may have, it may be wise to check with the student's perception of the situation. This may offer an excellent basis for a starting point for discussion with the student. Further, although you may have little "faith" in the student's responses, the information given is still valuable for it might give you an idea of how the student perceives things.

Student Profile Card

This card contains the student's name, the school's code number, and a brief (memory stimulator) description of each test with a reference to the column in the "profile box" in which the test is represented. Each school has a set of Student Profile Cards--that is, one card for each pupil. Some schools order additional sets.

Because this particular Profile Card was originally prepared to answer a request for something to give students, parents, and teachers untrained in testing, the scores are given in verbal categories instead of quantitative form. The designations are intended to be fine enough to be meaningful but coarse enough to reduce misinterpretations of small differences. You will note that the profile matches, except for inversion, the profile on the back of the Student Record Card. These profiles were prepared by punching the ten's digit of the student's percentile score. Positions on the Profile Card are coded as follows:

Percentile Score	Verbal Category
90 and up	Exceptional
70 through 89	Superior
30 through 69	Average
01 through 29	Below Average

The back of this Student Profile Card is blank so that the counselor may make relevant notes on it--especially if it is to be used by pupil or parent. When Profile Cards are presented to pupils and parents, this should be done only in individual conferences during which you caution the recipients against common errors in interpretation, against overgeneralizaing, and against assuming that one score or set of scores does more than give a clue to certain ideas to be investigated. Other information (confirming as well as contradicting) which your school has concerning the pupil should be presented together with the test results. These other data and comments can be written on the back of the card.

Some schools use a set of Profile Cards for distribution of information to classroom and homeroom teachers and retain the Student Record Card in the central files of the counselors or director of guidance. Profile Cards also have proved useful for staff-casing sessions on individual pupils.

Adhesive-Label Report

This report form is intended simply as a substitute for clerical time and effort in transcribing scores from the Report of Scores to individual cumulative records. There is no "new" information provided on them. Many schools want to transmit test-score records along with grades and attendance records to educational institutions or prospective employers. Current photo-duplication methods make this easier to do if the test scores appear on the student's cumulative record. Transcription to the record by hand is time-consuming, and--unless a very rigorous process of proofreading is used--transcription permits many errors.

If your cumulative record form has a space 5 inches by 15/16 inch for the adhesive label, clerical transcription can now be avoided. Some time will be necessary for placing the labels on the folder, but this time can be reduced to a minimum if the person or persons doing the job will study the instructions on the second and third pages of the summary information inside the front cover of the folder for your Report of Scores.

You should remember that college admission officers, employers, and others outside your school will not be familiar with the score reporting. For this reason you may wish to make up an explanation sheet to go with your transcripts. Many schools do this for all test data which they transmit.

School Mean Scores

The "average raw score" and "average percentile score" on each of the tests for the students in your school are printed after the last name on your roster report. Those students who did not take the test (designated in the report by a blank) were disregarded in calculating the "average raw score" and the "average percentile." If the number on whom the mean was calculated is small (two-thirds or less), the mean probably is not a reliable or representative measure and should not be used as a basis of comparison with other classes or schools. If the number is near these minimum figures, it should be used with great caution.

In the near future we will send you school-mean norms based upon types and sizes of schools in this year's Program. Through them you will be able to compare your "averages" with schools of similar size. In the meantime, your school means can afford one point against which to interpret individual scores.

Frequency Distribution

Two copies of the frequency distribution of raw scores for the juniors in your school have also been sent to you. The distribution is printed on computer-output paper. We hope that this report will give you a better picture of the distribution of your students on the various tests in the Illinois Statewide Testing Program. For example, to know that a student ranks at the 78th percentile (for all students in Illinois taking the test this year) is one useful piece of information; to know that he is among the top 20 students among the 300 in your school taking the test this year is another--and quite different--useful piece of information.

The far-left and far-right columns on this report represent the various scores students might obtain on the tests. In the remaining columns--those with test titles as headings--you will find the number of juniors in your school receiving that score on that test. Note that, since this report contains information about the juniors in your school only, it is not affected by the results from any other school which participates in the Program.

The last six lines of the frequency-distribution report contain information computed for your students for each test. Line one presents the number of students who took the tests. Line two presents the mean raw score for each test. Beneath this (line three) is the standard deviation of the scores. This number will give you an indication of the spread in the scores on each particular test. For a further discussion of the usefulness of this measure, see Chapter III of this booklet.

The raw scores corresponding to three percentile points (the 75th, the 50th, and the 25th) are printed directly below the standard deviation. These percentile points are computed from the scores of your juniors only. They do not necessarily correspond to the percentiles for the entire state, which are reported on the roster form. These three scores should serve as "bench marks" which divide the distribution of scores for your juniors into four groups containing equal (approximately) numbers of students.

These data may be used in a variety of ways. They may be used in interpreting the results for an individual student or for comparing his results with the other

students in your own school. Does his percentile profile with respect to the students in your school look like the percentile profile with respect to the whole state? The data also allow you to look at the group as a whole. The frequency distribution will give you at a glance the range of scores in your school. You will also be able to tell whether there are any distinct groups of students on any one of the tests. This will be further discussed in Chapter VI on "The Analysis of Group Results."

The analysis of a particular student's case is one of the most important and most rewarding uses of tests. This chapter may help you to do this.

CHAPTER V

THE ANALYSIS OF THE INDIVIDUAL STUDENT'S CASE

In this chapter we have tried to suggest some of the kinds of data you might assemble in a case assessment, some of the kinds of questions you might ask about these data, and some of the kinds of questions you might ask regarding a few rather common testing-program profiles. The profiles presented will not fit every case. The number of possible profiles is myriad. The number of possible "meanings" of a given profile is large. We have presented these few examples in hopes of suggesting ways of procedure--not with the intent of giving all answers.

What Data Do You Need?

When you stop to think about it, a test is just a sample of an individual's behavior in a standard situation where you know the meaning of different kinds of responses. Viewed in this light, one of the first things you will want to do is to compare this sample of his performance with such samples as you have from past performances. If you keep a cumulative record in your school, this probably is the first place you should turn to for such evidence. If not, you may want to think about the kinds of things that might go into a cumulative record and see if you can assemble them. Other test scores are important since you probably would like to compare the student's scores with other tests he has taken. School grades constitute another item that will furnish important evidence of previous performances--samples of previous behavior. Some schools may have anecdotal records, attitude scales, teacher-rating scales, or similar evidence of the student's social behavior and personality. Extracurricular records, if any, would be good to have on hand. Sometimes the health-and-attendance record brings out important information which has hitherto been overlooked. Probably the most valuable record from the Testing Program for this purpose is the Student Record Card. On it you have personal data written by the student.

Most of us tend to stop when we have exhausted the file case and the other sources of written records. But other people's experiences with the student are very helpful when we can obtain knowledge of them. But do not forget the student himself. The student is one of the most important sources of data about "what does this information mean?" and "what interpretation is appropriate?" Remember, regardless of the extent of your training and however much of an expert you think you are, each person is an "expert" on himself and knows more about himself than you ever will. Your skill and training will help you mainly to decide what information you and he need to know and when and how it is a factor to consider in the interview situation.

Where to Start?

How do you analyze the various samples of the student's behavior after you have gathered them together? The process of analysis is basically one of comparing whatever samples of behavior you have of the pupil--looking for consistencies or inconsistencies, hence enabling you to make a judgment of the pupil's characteristics. The search for these consistencies involves comparisons of the different aspects of the student's present behavior and comparisons of these with his past and intended future behavior. Just what comparisons you begin with is a matter of personal preference and training. Since the distinctive function of this manual is to help you in the use of the test scores, we have made the arbitrary choice of starting with the analysis of the Statewide High School Testing Program test scores.

What Characteristics Stand Out When You Look at a Test Profile?

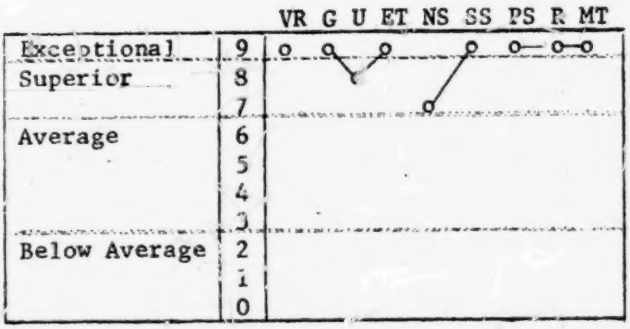
Usually you will notice the general elevation of the profile (does it run across the top, middle, or bottom of the profile chart?) and the consistency of the scores from test to test (does it flow across the chart in a relatively smooth line or does it jump up and down, giving a jagged appearance?). These two aspects seem to be the prominent characteristics which we can use to analyze the meanings of the profile.

Given the elevation of the profile and some indication of the specific consistencies and inconsistencies of the scores, we can begin to frame hypotheses (hunches) about what additional data are needed. To indicate how this is done, we have chosen some examples of rather common profiles and listed some illustrative questions which are suggested by the score characteristics. The list of questions is by no means exhaustive. You will want to add to them for any particular case. Some questions will not be applicable to a given student. Although the questions are directed toward a particular aspect of the profile, questions may be raised of other parts of the profile. For instance, on profile A-3, questions may be asked about the student's Social Studies and Natural Sciences scores in addition to those we have raised which are derived from the fact that he is above-average in all test scores.

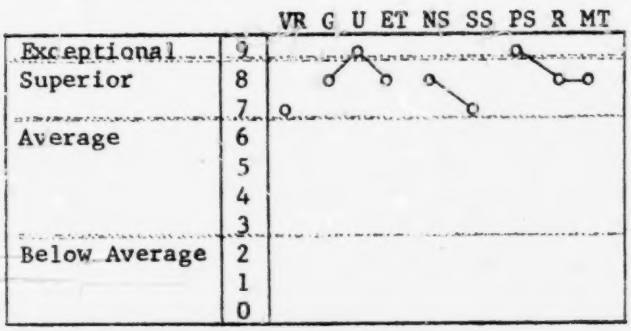
Note that the profiles are not drawn with a single continuous line. Rather, the measure of academic aptitude stands alone while the measures of knowledge and reading comprehension, the measures of language skills, and the mathematics measures are each connected within themselves. This is intentional since it is felt that it makes clearer the kinds of comparisons which are fruitful than would a continuous-line profile. Thus you will want to compare the measure of academic aptitude with the achievement tests and the various tests which are interconnected with one another. In general, one would expect a rather high degree of consistency in the scores in all of these comparisons. Where there is inconsistency, one will want to try to trace down its cause.

Whether or not these questions lead you to pertinent information and then to a plan of action, you will have to decide. They are intended to help you determine the student's true ability and what he has done and is planning to do with it. Basically, of course, we want each student to receive the maximum opportunity to develop the ability he has and to correct or compensate for weaknesses. You will find the questions aimed in this direction.

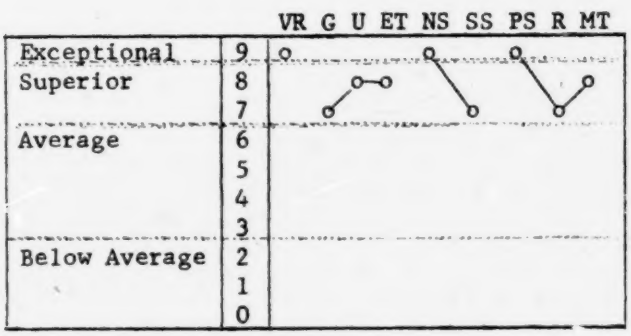
A--All Above Average



A-1



A-2



A-3

1. Does he consistently perform well in all academic situations or just when the pressure is on, as with tests?

2. Frequently, bright students can be successful in many areas and so have trouble getting vocationally oriented. What light do the responses on the Student Record Card throw on this?

3. Does he plan to continue his training beyond high school?

4. Does his father's occupation indicate a likelihood that financial aid will be necessary? What other information do you have on this?

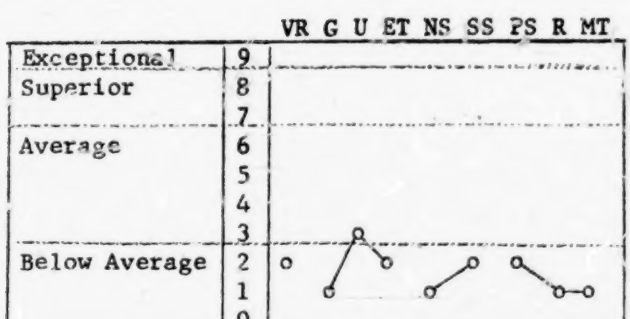
5. Is his choice of a school for advanced training consistent with his plans? with his personality (large school, small school)?

6. Does this student engage in extracurricular activities? Does he get along well with his peers?

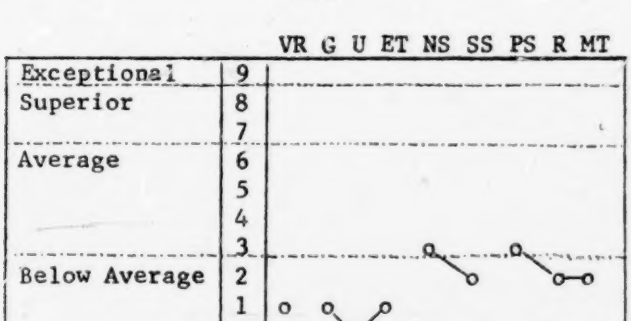
7. Are his ambitions for twenty years from now (see the Student Record Card) consistent with his ability?

8. Is this student younger than other students? Can he keep up physically and socially?

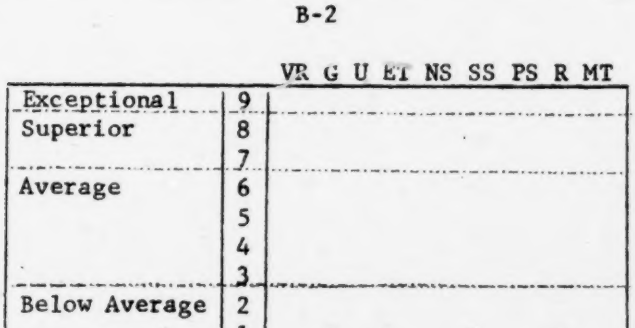
B--All Below Average



B-1



B-2



B-3

1. Was this student motivated to take these tests? Or is he a person who reacts negatively to test situations?
2. How do these results compare with other tests he has taken?
3. How does his profile compare with his academic record?
4. Is he at age in grade or is he older or younger than his classmates?
5. Is there a reading difficulty? or some physical impairment that would hinder production on tests (vision, general physical level)?
6. If this appears to be a typical performance, does the student recognize his limitations? Is this reflected in his occupational plans? his plans for further training?
7. Judging by the father's occupation, is this low performance likely to be an area of conflict?
8. Is the student able to compensate for lack of academic success by his extracurricular activities?
9. Are his interests and maturity such as to set him apart from his peers?
10. Does the school have any kind of program--remedial, supplementary, etc.--to help this pupil to improve himself?

C--Wide Discrepancies Between Grammar and Usage Scores

VR G U ET NS SS PS R MT

Exceptional	9	
Superior	8	
	7	
Average	6	
	5	
	4	
	3	
Below Average	2	
	1	
	0	

C-1

. G U . . . . . .

Exceptional	9	
Superior	8	
	7	
Average	6	
	5	
	4	
	3	
Below Average	2	
	1	
	0	

C-2

. G U . . . . . .

Exceptional	9	
Superior	8	
	7	
Average	6	
	5	
	4	
	3	
Below Average	2	
	1	
	0	

C-3

. G U . . . . . .

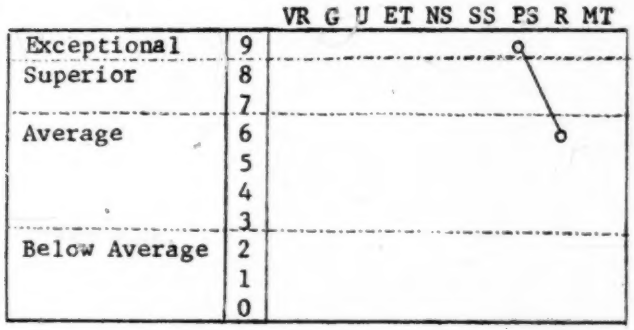
Exceptional	9	
Superior	8	
	7	
Average	6	
	5	
	4	
	3	
Below Average	2	
	1	
	0	

C-4

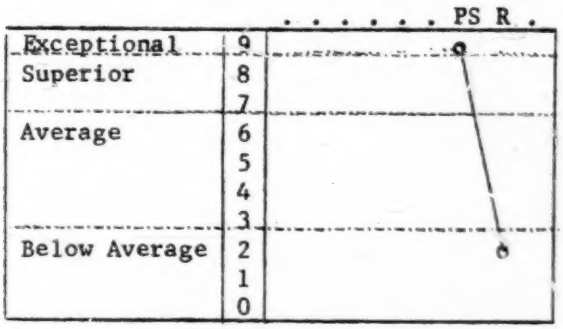
(These four profiles direct attention to certain tests only. There are, of course, other scores with them.)

1. Is this typical of his written work?
2. How well is this student doing in his English-rhetoric classes?
3. What aspect of English is stressed in his rhetoric classes? Does it happen to be grammar or usage as we have defined it?
4. Does the student with a high Grammar score appear "rigid" in his behavior? Does this student generally need to follow the rules word-for-word?
5. Does the student communicate well verbally? Has he had opportunities to express himself in written and oral communication where he could get corrective help?
6. Is the student with a high Usage score but a low Grammar score usually a rather careless worker? somewhat less motivated than is desirable? Is this reflected in his occupational choices?
7. Has he had remedial work before?
8. Can this pupil get corrective help?

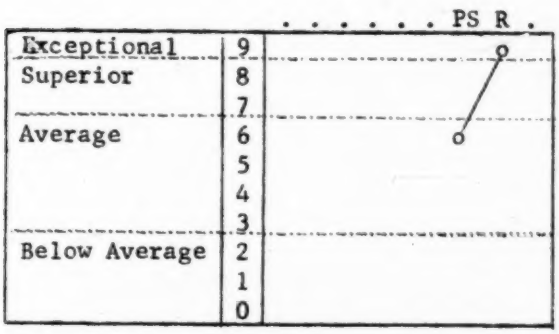
D--Wide Discrepancies Between Problem Solving and Reasoning Scores



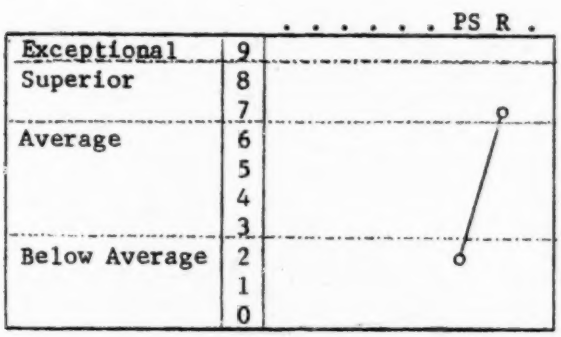
D-1



D-2



D-3

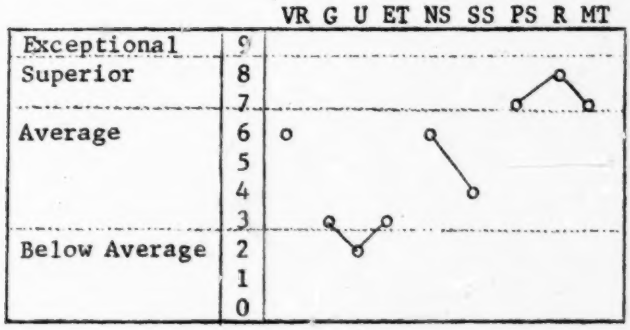


D-4

(These four profiles direct attention to certain tests only. There are, of course, other scores with them.)

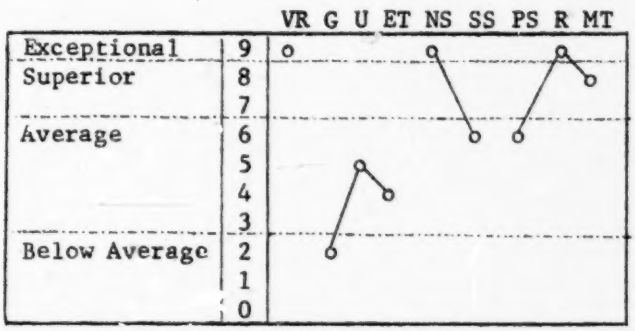
1. Is this typical of his mathematical work?
2. How well is this student doing in his mathematics classes?
3. What aspects of mathematics are stressed in his classes? Does it happen to be problem solving or reasoning as we have defined it?
4. Does the student with a high Problem Solving score appear "rigid" in his behavior? Does this student generally need to check and re-check his work for accuracy?
5. Is the student with a high Reasoning score but a low Problem Solving score usually a rather careless worker? somewhat less motivated than is desirable?
6. Has he had remedial work before?
7. Can this pupil get corrective help?

E--Wide Discrepancies Between Language Achievement and Mathematics Achievement



E-1

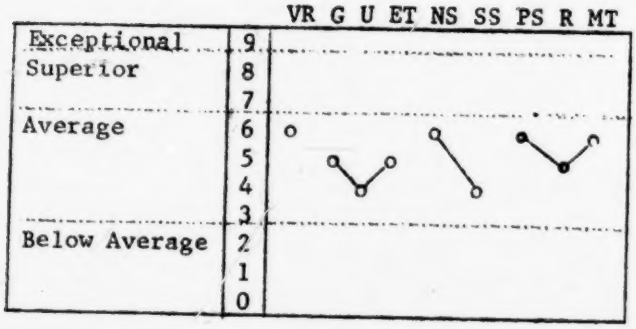
E-2



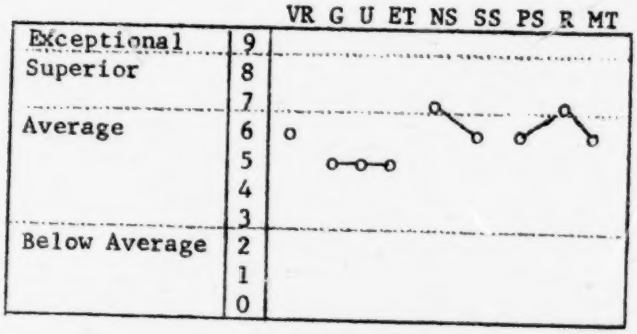
E-3

1. Are his grades comparable to the achievement level shown here?
2. May low language performance be due to a reading difficulty?
3. What language is used in this student's home?
4. Does the student have easy access to "good" reading matter?
5. May the low scores indicate more of an environmental factor than potentiality, e.g., certain reading materials ridiculed by persons in the home, or interest in mathematics and science ridiculed?
6. Does the student appear to have given up? to have accepted the role of a non-achiever?
7. Do his areas of interest or his extracurricular activities reflect ways of approaching this student to interest him in other academic areas?

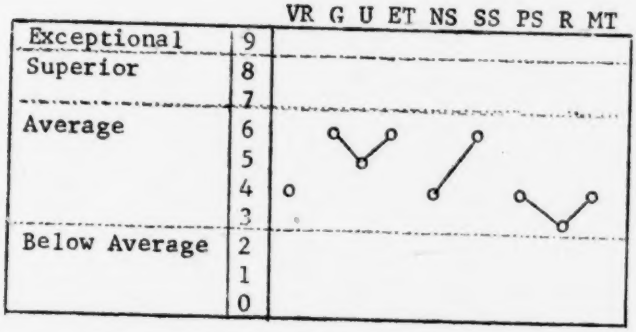
F--All Average



F-1



F-2



F-3

1. How well is this student doing academically?
2. Does he feel that he could have shown a "higher performance"?
3. Has this student ever shown a higher or lower performance on tests?
4. Are his occupational and future educational plans consistent with his profile? Do they reflect dissatisfaction with average ability?
5. Is this average performance consistent over time or was he at one time much higher or lower in terms of grades or tests?

Cautions in Using Profiles

In concentrating on the various scores in a profile, it is easy to overemphasize the differences that exist among them. It is for this reason that we want to remind you of certain peculiarities of percentiles. One of them was discussed earlier in Chapter III, where we pointed out that a difference between percentile points in the very high or very low percentiles reflects a greater change in raw scores than does the same difference in percentiles in the middle of the percentile range. In general, you will be safest in considering differences as meaningful only if they are 8 or 10 points between the 35th and 65th percentiles or 5 or 6 points outside of this central range. This "error" may result from two different sorts of things. First, many different factors (immediate motivation, attention and memory, lighting and ventilation) affect the individual at a given moment and therefore affect his test results. Second, any educational (psychological) test is composed of merely a sample of the complete set of items which represent that behavior (e.g., reading) with that material (e.g., social studies).

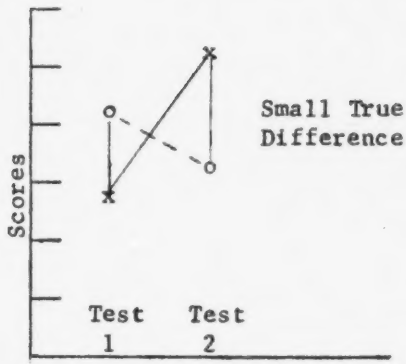
We are all familiar with personal examples of the first sort of "error-causing condition." We have days when we just do not perform our tasks at our typical level. On the other hand, we do experience a set of conditions now and then which seem to work together in causing us or allowing us to perform better than we know we could do regularly. It is not as simple as a one-to-one correspondence with conditions. Poor lighting might detract from our performance; but there are situations in which poor lighting, coupled with a high motivation, seem to have the effect of focusing our attention and we do better than usual. Relatively minor fluctuations in internal-external conditions may cause generally unpredictable differences in test scores--results that are either above or below typical performance.

The second "error-causing factor"--the fact that a given test is a sample of items--is also important. When we "test" height or weight, we measure all of it. We do not take samples of length in the body (knees to hip or clavicle to chin) and then speak of height. We could, by taking enough samples, get a pretty good measure--but we do not need to. In testing ability to do verbal reasoning, however, one cannot test on all possible items (cannot get a "complete" measure of height). Therefore, the test builder tries to get a good sample of such items. Naturally, the sample is somewhat more or somewhat less favorable to various individuals in a given time. Perhaps you have experienced a spelling-bee situation in which you thought, "Oh, if only I could have been given his words to spell!" or "My, I am glad I did not get her words to spell!" In summary, although we try to have good samples of items, there will be differences in test scores which depend upon the particular sample used.

Now let us see how the "error-causing things" affect our interpretations. Consider two students, A and B. In the diagram below, the possible range of scores on each test is represented by a vertical line. Two tests are given each student at each of two test sessions. The solid lines connect scores on Test 1 and Test 2 at the first session; the dotted lines connect scores of Test 1 and Test 2 at a later testing session. You can see that a profile including these scores would look somewhat different if it came from the first testing session than it would if it came from the second. It is still true, however, that these differences in results are generally minor--a student's results do not go from top possible score to lowest possible score in the kind of "daily variation" represented here.

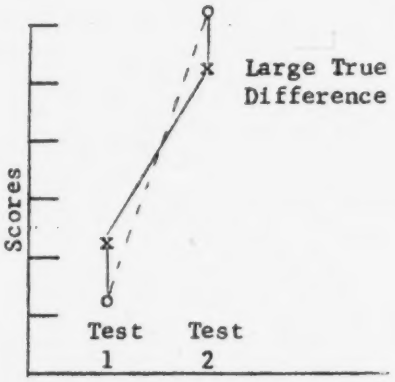
If one interprets only the large differences as representing true differences, one is more likely to be correct in interpreting the nature of the profile.

Student A



Small differences may be inaccurately portrayed in observed profile scores.

Student B



But large differences between Test 1 and Test 2 may be relied upon in observed profile scores.

Finally, we should remember that the profile itself is nothing more than a series of lines connected at various points. As such it has little meaning. In using the profiles, therefore, we should avoid making hasty generalizations about a student from a cursory glance at his Profile Card. Such first impressions usually are based not so much on the scores themselves as on the way in which they are arranged. Thus, we have arranged the scores so that the aptitude score appears in column 1, communication skills scores in columns 2-4, reading comprehension and knowledge scores in columns 5-6, and mathematics scores in columns 7-9; but this is a more or less arbitrary arrangement, and many others probably could be justified. No matter what the arrangement, however, the profile pattern will change each time we change the position of the scores. If we remember that the profile is intended only as a convenient way of comparing scores, we realize that it is not the profile in itself which tells us anything but rather the scores.

An Example of Individual Analysis

We have sketched in the outline of how one might go about analyzing a case. Here are the scores for a junior girl:

Verbal Reasoning	Grammar	Usage	English Total	Natural Sciences	Social Studies	Problem Solving	Reasoning	Math Total
52	71	67	70	42	61	31	24	27

Her name is Mary Green. Ordinarily we might say that these results reflect just what we know--she is low in mathematics and average in other areas. But two things in the pattern give us a different clue--her academic aptitude is in the average range and her English scores are considerably higher than any other scores.

This happens to be one of the profiles for which we have set up sample questions so let us turn to these as an initial guide in looking at this profile. They will be found under the profile title "Wide Discrepancies Between Language Achievement and Mathematics Achievement." The first question concerns the comparison of scores shown in the profile with her school grades. As might be expected in the case of a person who, so far as we know, earnestly attempted the tests, Mary's grades are consistently low in mathematics and science. Since the discrepancy is with mathematics at the low end, we shall skip the next question. However, "good" reading material in this case may mean books and/or supplementary material in the sciences and mathematics which are available to Mary? Are there places where she can get this material? Does she feel comfortable with mathematics or is it something that girls are not supposed to be good in anyway? These questions suggest that you might want to talk to Mary also about the way she feels about math--if she feels the problem is one she would like to overcome. Judging from the fact that her Student Record Card shows that Mary plans to take nurses' training and would like someday to be a head nurse, one gets an impression of some ambition. Maybe one ought to examine the reality of this ambition with Mary and discuss how to make it more realistic. Is she aware of the need for mathematics in nursing?

Clearly this does not begin to exhaust the pertinent questions in Mary's case, but it does give us a start. We hope you can think of other questions you would like to ask. Some of your questions may substitute for those asked here. Your questions perhaps will get away from the test scores and into a comparison of the other data in the record. Using all the data you have is desirable.

* * * * * *

We hope you find the time and opportunity to do much of this case analysis yourself. If you find some particularly interesting cases you would like to share with others using the Program, why don't you drop us a note describing the case and what you did. We can work out a means for exchanging such experiences if you will supply us with the material for exchange.

Means and distributions of scores can tell you useful things about groups of students--about your school. This chapter gives a few suggestions about looking for such information.

CHAPTER VI

THE ANALYSIS OF GROUP RESULTS

At the bottom of your roster Report of Scores you will find the average raw scores and percentile scores which were computed for each of the classes (junior and senior) in your school on each of the tests. If you have been in the Program in previous years, you will recall having received average percentile scores before. Please note, however, that the "school norm" tables which were used in the past will not apply to this year's average percentiles. New school norms are being prepared now.

Another thing to notice: If the number of students' scores used in computing these averages in a given class is less than 15, it is too small to give a reliable average score. (If an average score is necessary, the median should be used in place of the mean. This statistic is computed for the juniors in your school; on the frequency distribution print-out it is labeled the 50th percentile.) Furthermore, even if the number of students used in computing the average is greater than 15--if this number is not at least two-thirds of the total number in the class--the average given is not a good representation of the total class average and should not be used for this interpretation.

How Are the Scores Distributed?

How the scores of your pupils are distributed may be of interest and can give added information. The distribution of raw scores for each of the tests is included as part of the Program reports. However, you may also want to set up a distribution of the percentile scores for the students in your school. For this distribution you may wish to use intervals of 10 percentile points. For example, how many pupils had scores of 09 or lower? of 10-19? of 20-29? etc.

Some schools which draw from both a rural and an urban district find that they have a big group of high scores and a big group of low scores with somewhat fewer scores in between. Frequently this has implications for dividing the groups into homogeneous sections. Perhaps in daily assignments the teachers in such a school should take into account the fact that there are two different ability groups.

Some schools find that they have a predominance of scores at one end or the other. That is, the scores pile up, say, at the high end, showing that most of the students have scores indicating high achievement and high ability. In such schools students who are at the low end have a hard time competing with the others and frequently need special attention. In other schools the distributions of scores are the reverse, showing a piling up of students at the low end and very few students standing out as being brighter than the rest. In these instances the teachers may wish to consider providing an accelerated or expanded

program for the students with exceptional ability so that these students can be adequately challenged and their level of learning not held to that of the slower learners.

How Adequate Is Our Curriculum?

You may find from the frequency distribution that your school is particularly weak in one or more of the achievement areas and perhaps particularly strong in others. Or perhaps you will find this is true when you place your means on the school norms. Such data--combined with whatever other evidence you have of strengths and weaknesses--may have important implications for curricular revision. Many schools, for instance, assume that reading has been taught at the elementary level and little or no emphasis is placed on it in high school. This sometimes is found to be in error and "campaigns" need to be started to assure proper emphasis on this important tool for further learning. The bulk of training in writing usually is left to the English classes with little emphasis being placed on it in other courses where written work is required. Discussions of mathematics and science are relegated to their respective courses. Results from the Statewide Testing Program can give clues of the extent to which the present program is successful. It may be desirable that some kind of a program emphasizing training in a particular skill, such as writing or mathematics, be implemented for your school.

CIRCE has other pamphlets and offers scoring and advisory services on other tests.

CHAPTER VII

SOME RELATED SERVICES

For many years this office has furnished a test-scoring service for IBM 805 answer sheets. Many schools availed themselves of this inexpensive, accurate, and time-saving way of scoring tests from their own school programs. In the last few years, however, the number of schools using our service on the IBM 805 answer sheets has decreased to the point that we can no longer afford to keep the machine. This is appropriate for two reasons: (1) many test publishers offer scoring services; (2) there are new test-scoring machines which do a better job faster.

However, we still offer scoring and reporting on Digitek answer sheets. Digitek is an electronic optical scanner which scores answer sheets much more rapidly than does the older "contact-scoring" device. For test results to be scored on Digitek, special answer sheets are necessary; but such answer sheets are available from a number of the test publishers. For example, the following tests are some of those which provide Digitek answer sheets:

Differential Aptitude Tests (The Psychological Corporation)

California Short-Form Test of Mental Maturity (CTB/McGraw-Hill)

Sequential Tests of Educational Progress (Cooperative Test Division, Educational Testing Service)

Iowa Tests of Educational Development (Science Research Associates, Inc.)

If you are interested in knowing which published tests provide Digitek answer sheets, we suggest that you write the following publishers for their latest test catalogs:

CTB/McGraw-Hill, Del Monte Research Park, Monterey, California 93940

Cooperative Test Division, Educational Testing Service, Princeton, New Jersey 08540

Harcourt Brace Jovanovich, Inc., 7555 Caldwell Avenue, Chicago, Illinois 60648

Houghton Mifflin Company, 1900 South Batavia Avenue, Geneva, Illinois 60134

The Psychological Corporation, 304 East 45th Street, New York, New York 10017

Science Research Associates, Inc., 259 East Erie Street, Chicago, Illinois 60611

These catalogs will also describe their special scoring services.

If you wish to have scoring done on Digitek, please write to us explaining your request and we will quote charges for your job. The speed and flexibility of Digitek processing allows us to offer you reports of scores, means, and item analyses at reasonable cost figures.

As stated in the final paragraph of Chapter V, we will welcome your interesting cases as material which may help others. Also, we find that various schools have techniques which they have developed locally for using the test results to counsel individuals or to improve teaching. Why don't you share your special techniques with other schools by sending us descriptions of the things you do--in many cases we will communicate these "inventions" to others in the Program.

We also welcome your inquiries concerning test selection or test interpretation and use--Statewide Program tests or others. If you care to visit CIRCE to talk about special testing or evaluation problems, we will do our best to try to arrange appropriate times.

BIBLIOGRAPHY

The references in this section can be helpful to various members of the staff when it comes to using test results wisely. The results of the Statewide Testing Program cannot and should not be separated from a local program of testing, guidance, and curriculum revision. Therefore, these references concern many things besides the specific tests in this one Program. Experience seems to indicate that one of the best ways to become versed in using test results is to read much and then try out those suggestions which seem at all pertinent.

A few of the following entries have been marked with an asterisk. This means that we believe at least these items should be on the "professional bookshelf" of every school.

Anastasi, Anne. Psychological Testing, Third Edition. New York: The Macmillan Company, 1968.

A good text for explanations of some major concepts in testing, such as reliability, validity, and norms. The kinds of tests available for intelligence, aptitude, and personality testing are discussed pro and con.

Bennett, G. K., Seashore, H. G., and Wesman, A. G. Counseling from Profiles--A Casebook for the Differential Aptitude Tests. New York: The Psychological Corporation, 1951.

Contains thirty separate, real cases spread from grade eight through grade twelve. For each case, test results on the D.A.T. are reported and a counselor has given a brief interpretation.

Bloom, Benjamin S., Hastings, J. Thomas, and Madaus, George F. Handbook on Formative and Summative Evaluation of Student Learning. New York: McGraw-Hill Book Company, 1971.

As the name suggests, this is more of a reference book than a text. The first part of the 962-page "Handbook" gives general instructions which any teacher may use in assessing student progress and ties these to ideas of curriculum change and mastery learning. The second part is a series of eleven chapters by specialists in particular learning areas--from early childhood through language arts and art to vocational education.

*Buros, Oscar K. (Editor). The Seventh Mental Measurements Yearbook, Volume I and and Volume II. Highland Park, New Jersey: The Gryphon Press, 1972.

Contains a listing of most tests published in the last decade or so and many of earlier dates. Critical reviews of each test have been written by specialists.

Cronbach, Lee J. Essentials of Psychological Testing, Third Edition. New York: Harper & Row, 1970.

This is a very complete revision of the 1960 Cronbach book. Its presentation of some of the latest thinking of basic measurement concepts and its example critiques of certain well-known tests make the book quite useful to test work in schools.

Gerberich, J. R. Specimen Objective Test Items: A Guide to Achievement Test Construction. New York: Longmans, Green and Co., 1956.
Actual excerpts from 227 objective achievement tests are classified by form, school subject, educational level, and function in order to illustrate to the teacher the wide variety of test-item types which are available for one's various purposes in testing.

Gronlund, Norman E. Constructing Achievement Tests. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1968.
This is a very practical book for developing classroom tests. Its clear delineation of steps to take should be useful to any teacher concerned with improving classroom tests.

Gronlund, Norman E. Readings in Measurement and Evaluation. New York: The Macmillan Company, 1968.
This is an up-to-date selection of articles on testing and evaluation from many journals.

Rothney, John W. M., Danielson, Paul J., and Heimann, Robert A. Measurement for Guidance. New York: Harper & Row, 1959.
Rothney and colleagues have presented some very interesting criticisms of test use in counseling. Although their points of view are debatable, any staff receiving information on why tests are useful should look also at the arguments set forth in this book against using them.

*Smith, Eugene R., Tyler, Ralph W., et al. Appraising and Recording Student Progress. New York: Harper & Row, 1942.
This is the story of testing and test use in the "Eight-Year Study of Evaluation in Secondary Schools." Although published almost thirty years ago, it still is ahead of most books in suggesting how to get evidence on important, non-factual aspects of the curriculum.

Stake, Robert E. (Editor). "Perspectives of Curriculum Evaluation" by Ralph W. Tyler, Robert M. Gagné, and Michael Scriven, AERA Monograph Series on Curriculum Evaluation. Chicago: Rand McNally & Company, 1967.
This is a very penetrating discussion of evaluation in education. The papers by Tyler, Gagné, and Scriven certainly express some new viewpoints and should be useful to the school evaluation committee.

Super, Donald E. and Crites, John O. Appraising Vocational Fitness by Means of Psychological Tests, Revised Edition. New York: Harper & Row, 1962.
A practical book on the use of tests in guidance and personnel work.

Tinkelman, S. N. Improving the Classroom Test. Albany, New York: The University of the State of New York, The State Education Department, 1956.
This clearly written pamphlet of 56 pages summarizes and provides a check list of the essential mechanics of classroom test-making. Not for general sale--copies usually can be obtained without charge if a personal request is sent to the State Education Department at Albany.

*Tyler, Leona. The Work of the Counselor, Second Edition. New York: Appleton-Century-Crofts, 1961.
An easily read, interesting account of many aspects of counseling--including the use of tests and records. Much more practical orientation than many such books.

The following sources of test information are distributed by some of the test publishers without cost. If your school is not already on their mailing lists, you may wish to request its addition by writing the publisher. All of these bulletins are issued at irregular intervals.

Test Service Bulletins. The Psychological Corporation, 304 East 45th Street, New York, New York 10017.

Test Service Notebooks and Test Service Bulletins. Harcourt Brace Jovanovich, Inc., 7555 Caldwell Avenue, Chicago, Illinois 60648.

Bulletins on tests and their uses from the Evaluation and Advisory Service, Educational Testing Service, Princeton, New Jersey 08540.